KNOTS AND LINKS: SOFTWARE AND ONLINE RESOURCES

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ONLINE RESOURCES

Data bases of knots and their invariants:

- Knot Atlas by Dror Bar Natan and Scott Morrisson

http://katlas.math.toronto.edu/wiki/Main_Page

- KnotInfo by Chuck Livingston

http://www.indiana.edu/~knotinfo/

ONLINE RESOURCES

- KnotFinder powered by Knotscape on KnotInfo website
http://www.indiana.edu/~knotinfo/knotfinder.php

  Input: DT notation for prime knots up to 13 crossings

  Output: Classical name

- KnotSketcher by Jiho Kim Java program

  http://www.indiana.edu/~knotinfo/homelinks/knotsketcher.html

  Input: Drawing

  Output: DT name

KNOT THEORY SOFTWARE

- KnotPlot by Rob Scharain
- Knotscape by Morween Thistlethwaite and Jim Hoste
- Knot Theory by Dror Bar Natan
- Knot2000 by M. Ochiai, N. Imafuji
- LinKnot by S. Jablan and R.Sazdanovic

And many more....

KNOT THEORY SOFTWARE

Knot tightening algorithms and ideal shapes

- SONO by Piotr Pieransky

http://etacar.put.poznan.pl/piotr.pieranski/

- Ridgerunner by Jason Cantarella

http://www.jasoncantarella.com/webpage/index.php?title=Software

KNOTPLOT
by Robert Scharein

http://knotplot.com/

- Visualize and manipulate knots in three and four dimensions.

Input:

- Coordinates
- Drawing
- Tangle calculator
- Current project: establish a 2-way communication between the KnotPlot and LinKnot

KNOT THEORY
D. Bar Natan

http://katlas.math.toronto.edu/wiki/The_Mathematica_Package_KnotTheory

Input:

- Any notation you can think of ...

Can compute:

- Almost anything you can come up with in classical knot theory
- Khovanov homology-J. Green, other A. Shumakovitch KhoHo

Cotton Seed.

- Heegaard Floer by Jean Marie Droz (other: J. Baldwin, W.D. Gillam)

KNOTSCAPE
Jim Hoste & Morween Thistlethwaite

With the input from Bruce Ewing, Ken Millett, Ken Stephenson and Jeff Weeks (SnapPea, new version SnapPy by M. Culler and N. Dunfield)

- http://pzacad.pitzer.edu/~jhoste/HosteWebPages/kntscp.html

INPUT:

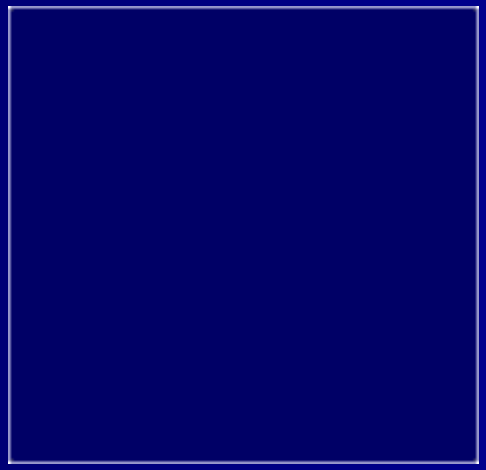
- Braid
- Dowker/Thistlethwaite code (Gauss code)
- by selecting from the knot tables- classical name
- or by drawing with a mouse

KNOTSCAPE
Jim Hoste & Morween Thistlethwaite

OUPUT:

- find the knot (or its summands with respect to connected sum) in the tables (provided it is truly a 16 crossing knot or less!),
- draw a pretty picture of it,
- compute its HOMFLY, Kauffman, Jones, or Alexander polynomial,
- compute representations of its fundamental group into the symmetric group on five letters, or
- compute various hyperbolic invariants a la Snap Pea.

LinKnot



S. Jablan, R. Sazdanovic
The extended version of
KNOT 2000
by M.Ochiai, N.Imafuji